

MAR 5 1996

GROUP 1800

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Warmke, Jeffrey W.  
Van Der Ploeg, Leonardus
- (ii) TITLE OF INVENTION: PROCESS FOR FUNCTIONAL EXPRESSION OF THE  
PARA SODIUM CHANNEL
- (iii) NUMBER OF SEQUENCES: 7
- (iv) CORRESPONDENCE ADDRESS:
  - (A) ADDRESSEE: Jack L. Tribble
  - (B) STREET: P.O. Box 2000, 126 E. Lincoln Avenue
  - (C) CITY: Rahway
  - (D) STATE: New Jersey
  - (E) COUNTRY: USA
  - (F) ZIP: 07065-0907
- (v) COMPUTER READABLE FORM:
  - (A) MEDIUM TYPE: Floppy disk
  - (B) COMPUTER: IBM PC compatible
  - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
  - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
  - (A) APPLICATION NUMBER:
  - (B) FILING DATE:
  - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
  - (A) NAME: Tribble, Jack L.
  - (B) REGISTRATION NUMBER: 32,633
  - (C) REFERENCE/DOCKET NUMBER: 19338DA
- (ix) TELECOMMUNICATION INFORMATION:
  - (A) TELEPHONE: (908) 594-5321
  - (B) TELEFAX: (908) 594-4720

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 33 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GACTCTAGAC GTTGGCCGCA TAGACAATGA CAG

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(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 21 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

AAGAGCTCGA CGAAGGGATC G

21

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

TCTTCGATCC CTTCTCGAG CTCT

24

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 21 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

AAAGGATCCA AATATGATGA A

21

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 25 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

TTTGGATCCT TTTTCACACT CAATC 25

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 32 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GACTCTAGAG CTAATACTCG CGTGCATCTT GG 32

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 6513 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCTAGACGTT GGCCGCATAG ACAATGACAG AAGATTCCGA CTCGATATCT GAGGAAGAAC	60
GCAGTTTGTT CCGTCCCTTT ACCCGCGAAT CATTGGTGCA AATCGAACA CGCATTGCCG	120
CTGAACATGA AAAGCAGAAG GAGCTGGAAA GAAAGAGAGC CGAGGGAGAG GTGCCGCGAT	180
ATGGTCGCAA GAAAAACAA AAAGAAATCC GATATGATGA CGAGGACGAG GATGAAGGTC	240
CACAACCGGA TCCTACACTT GAACAGGGTG TGCCAATACC TGTTCGATTG CAGGGCAGCT	300
TCCCGCCGGA ATTGGCCTCC ACTCCTCTCG AGGATATCGA TCCCTACTAC AGCAATGTAC	360
TGACATTTCGT AGTTGTAAGC AAAGGAAAAG ATATTTTTCG CTTTTCTGCA TCAAAAGCAA	420
TGTGGATGCT CGATCCATTC AATCCGATAC GTCGTGTGGC CATTTACATT CTAGTGCATC	480

CATTATTTTC	CCTATTCATC	ATCACCACAA	TTCTCGTCAA	CTGCATCCTG	ATGATAATGC	540
CGACAACGCC	CACGGTTGAG	TCCACTGAGG	TGATATTCAC	CGGAATCTAC	ACATTTGAAT	600
CAGCTGTTAA	AGTGATGGCA	CGAGGTTTCA	TTTTATGCCC	GTTTACGTAT	CTTAGAGATG	660
CATGGAATTG	GCTGGACTTC	GTAGTAATAG	CTTTAGCTTA	TGTGACCATG	GGTATAGATT	720
TAGGTAATCT	AGCAGCCCTG	CGAACGTTTA	GGGTGCTGCG	AGCGCTTAAA	ACCGTAGCCA	780
TTGTGCCAGG	CTTGAAGACC	ATCGTCGGCG	CCGTCATCGA	ATCGGTGAAG	AATCTGCGCG	840
ATGTGATTAT	CCTGACCATG	TTCTCCCTGT	CGGTGTTTCGC	GTTGATGGGC	CTACAGATCT	900
ATATGGGCGT	GCTCACCGAG	AAGTGCATCA	AGAAGTTCCC	GCTGGACGGT	TCCTGGGGCA	960
ATCTGACCGA	CGAGAACTGG	GACTATCACA	ATCGCAATAG	CTCCAATTGG	TATTCCGAGG	1020
ACGAGGGCAT	CTCATTTCCG	TTATGCGGCA	ATATATCCGG	TGCGGGGCAA	TGCGACGACG	1080
ATTACGTGTG	CCTGCAGGGG	TTTGGTCCGA	ATCCGAATTA	TGGCTACACC	AGCTTCGATT	1140
CGTTCGGATG	GGCTTTCCTG	TCCGCCTTCC	GGCTGATGAC	ACAGGACTTC	TGGGAGGATC	1200
TGTACCAGCT	GGTGTTCGCG	GCCGCCGGAC	CATGGCACAT	GCTGTTCCTT	ATAGTCATCA	1260
TCTTCCTAGG	TTCATTCCTAT	CTTGTGAATT	TGATTTTGGC	CATTGTTGCC	ATGTCGTATG	1320
ACGAATTGCA	AAGGAAGGCC	GAAGAAGAAG	AGGCTGCCGA	AGAGGAGGCG	ATACGTGAAG	1380
CGGAAGAAGC	TGCCGCCGCC	AAAGCGGCCA	AGCTGGAGGA	GCGGGCCAAT	GCGCAGGCTC	1440
AGGCAGCAGC	GGATGCGGCT	GCCGCCGAAG	AGGCTGCACT	GCATCCGGAA	ATGGCCAAGA	1500
GTCCGACGTA	TTCTTGATC	AGCTATGAGC	TATTTGTTGG	CGGCGAGAAG	GGCAACGATG	1560
ACAACAACAA	AGAGAAGATG	TCCATTTCGA	GCGTCGAGGT	GGAGTCGGAG	TCGGTGAGCG	1620
TTATACAAAAG	ACAACCAGCA	CCTACCACAG	CACACCAAGC	TACCAAAGTT	CGTAAAGTGA	1680
GCACGACATC	CTTATCCTTA	CCTGGTTCAC	CGTTTAACAT	ACGCAGGGGA	TCACGTAGTT	1740
CTCACAAGTA	CACGATACGG	AACGGACGTG	GCCGCTTTGG	TATACCCGGT	AGCGATCGTA	1800
AGCCATTGGT	ATTGTCAACA	TATCAGGATG	CCCAGCAGCA	CTTGCCCTAT	GCCGACGACT	1860
CGAATGCCGT	CACCCCGATG	TCCGAAGAGA	ATGGGGCCAT	CATAGTGCCC	GTGTACTATG	1920
GCAATCTAGG	CTCCCGACAC	TCATCGTATA	CCTCGCATCA	GTCCCGAATA	TCGTATACCT	1980
CACATGGCGA	TCTACTCGGC	GGCATGGCCG	TCATGGGCGT	CAGCACAATG	ACCAAGGAGA	2040
GCAAATTGCG	CAACCGCAAC	ACACGCAATC	AATCAGTGGG	CGCCACCAAT	GGCGGCACCA	2100
CCTGTCTGGA	CACCAATCAC	AAGCTCGATC	ATCGCGACTA	CGAAATTGGC	CTGGAGTGCA	2160

CGGACGAAGC	TGGCAAGATT	AAACATCATG	ACAATCCTTT	TATCGAGCCC	GTCCAGACAC	2220
AAACGGTGGT	TGATATGAAA	GATGTGATGG	TCCTGAATGA	CATCATCGAA	CAGGCCGCTG	2280
GTCGGCACAG	TCGGGCAAGC	GATCGCGGTG	TCTCCGTTTA	CTATTTCCCA	ACAGAGGACG	2340
ATGACGAGGA	TGGGCCGACG	TTCAAAGACA	AGGCACTCGA	AGTGATCCTC	AAAGGCATCG	2400
ATGTGTTTTG	TGTGTGGGAC	TGTTGCTGGG	TTTGGTGAA	ATTTTCAGGAG	TGGGTATCGC	2460
TCATCGTCTT	CGATCCCTTC	GTCGAGCTCT	TCATCACGCT	GTGCATTGTG	GTCAACACGA	2520
TGTTTCATGGC	AATGGATCAC	CACGATATGA	ACAAGGAGAT	GGAACGCGTG	CTCAAGAGTG	2580
GCAACTATTT	CTTCACCGCC	ACCTTTGCCA	TCGAGGCCAC	CATGAAGCTA	ATGGCCATGA	2640
GCCCCAAGTA	CTATTTCCAG	GAGGGCTGGA	ACATCTTCGA	CTTCATTATC	GTGGCCCTAT	2700
CGCTATTGGA	ACTGGGACTC	GAGGGTGTCC	AGGGTCTGTC	CGTATTGCGT	TCCTTTTCGAT	2760
TGCTGCGTGT	ATTCAAAGTG	GCCAAGTCTT	GGCCACACT	TAATTTACTC	ATTTTCGATTA	2820
TGGGACGCAC	CATGGGCGCT	TTGGGTAATC	TGACATTTGT	ACTTTGCATT	ATCATCTTCA	2880
TCTTTGCGGT	GATGGGAATG	CAACTGTTTCG	GAAAGAATTA	TCATGATCAC	AAGGACCGCT	2940
TTCCGGATGG	CGACCTGCCG	CGCTGGAAGT	TCACCGACTT	TATGCACAGC	TTCATGATCG	3000
TGTTCCGGGT	GCTCTGCGGA	GAATGGATCG	AGTCCATGTG	GGACTGCATG	TACGTGGGCG	3060
ATGTCTCGTG	CATTCCCTTC	TTCTTGGCCA	CCGTGTGCAT	CGGCAATCTT	GTGGTACTTA	3120
ACCTTTTCTT	AGCCTTGCTT	TTGTCCAATT	TTGGCTCATC	TAGCTTATCA	GCGCCGACTG	3180
CCGATAACGA	TACGAATAAA	ATAGCCGAGG	CCTTCAATCG	AATTGGCCGA	TTTAAAAGTT	3240
GGGTAAAGCG	TAATATTGCT	GATTGTTTCA	AGTTAATACG	TAACAAATTG	ACAAATCAAA	3300
TAAGTGATCA	ACCATCAGGT	GAGAGGACCA	ACCAGATCAG	TTGGATTGTTG	AGCGAAGAGC	3360
ATGGTGACAA	CGAACTGGAG	CTGGGCCACG	ACGAGATCCT	CGCCGACGGC	CTCATCAAGA	3420
AGGGGATCAA	GGAGCAGACG	CAACTGGAGG	TGGCCATCGG	GGATCGGATG	GAATTCACGA	3480
TACACGGCGA	CATGAAGAAC	AACAAGCCGA	AGAAATCCAA	ATATCTAAAT	AACGCAACGA	3540
TGATTGGCAA	CTCAATTAAC	CACCAAGACA	ATAGACTGGA	ACACGAGCTA	AACCATAGAG	3600
GTTTGTCCCTT	ACAGGACGAC	GACACTGCCA	GCATTAATC	ATATGGTAGC	CATAAGAATC	3660
GACCATTCAA	GGACGAGAGC	CACAAGGGCA	GCGCCGAGAC	GATGGAGGGC	GAGGAGAAGC	3720
GCGACGCCAG	CAAGGAGGAT	TTAGGTCTCG	ACGAGGAACT	GGACGAGGAG	GGCGAATGCG	3780
AGGAGGGCCC	GCTCGACGGT	GATATCATTA	TTCATGCACA	CGACGAGGAT	ATACTCGATG	3840

AATATCCAGC	TGATTGCTGC	CCCGATTTCGT	ACTATAAGAA	ATTTCCGATC	TTAGCCGGTG	3900
ACGATGACTC	GCCGTTCTGG	CAAGGATGGG	GCAATTTACG	ACTGAAAAC	TTTCAATTAA	3960
TTGAAAATAA	ATATTTTGAA	ACAGCTGTTA	TCACTATGAT	TTTAATGAGT	AGCTTAGCTT	4020
TGGCATTAGA	AGATGTACAT	CTGCCACAAA	GACCCATACT	GCAGGATATT	TTATACTATA	4080
TGGACAGAAT	ATTTACGGTT	ATATTCTTCT	TGGAAATGTT	AATCAAGTGG	TTGGCGCTCG	4140
GCTTCAAAGT	GTACTTCACC	AACGCGTGGT	GTTGGCTCGA	TTTCGTGATT	GTCATGGTAT	4200
CGCTTATCAA	CTTCGTTGCT	TCACTTGTTG	GAGCTGGTGG	TATTCAAGCC	TTCAAGACTA	4260
TGCGAACGTT	AAGAGCACTG	AGACCACTAC	GTGCCATGTC	CCGTATGCAG	GGCATGAGGG	4320
TCGTCGTTAA	TGCGCTGGTA	CAAGCTATAC	CGTCCATCTT	CAATGTGCTA	TTGGTGTGTC	4380
TAATATTTTG	GCTAATTTTT	GCCATAATGG	GTGTACAGCT	TTTTGCTGGA	AAATATTTTA	4440
AGTGCGAGGA	CATGAATGGC	ACGAAGCTCA	GCCACGAGAT	CATACCAAAT	CGCAATGCCT	4500
GCGAGAGCGA	GAACACACG	TGGGTGAATT	CAGCAATGAA	TTTCGATCAT	GTAGGTAACG	4560
CGTATCTGTG	CCTTTTCCAA	GTGGCCACCT	TCAAAGGCTG	GATACAAATC	ATGAACGATG	4620
CTATCGATTC	ACGAGAGGTG	GACAAGCAAC	CAATTTCGTGA	AACGAACATC	TACATGTATT	4680
TATATTTTCGT	ATTCTTCATC	ATATTTGGAT	CCTTTTTCAC	ACTCAATCTG	TTCATTGGTG	4740
TTATCATTGA	TAATTTTAAT	GAGCAAAAGA	AAAAAGCAGG	TGGATCATTA	GAAATGTTCA	4800
TGACAGAAGA	TCAGAAAAAG	TACTATAATG	CTATGAAAAA	GATGGGCTCT	AAAAAACCAT	4860
TAAAAGCCAT	TCCAAGACCA	AGGTGGCGAC	CACAAGCAAT	AGTCTTTGAA	ATAGTAACCG	4920
ATAAGAAATT	CGATATAATC	ATTATGTTAT	TCATTGGTCT	GAACATGTTC	ACCATGACCC	4980
TCGATCGTTA	CGATGCGTCG	GACACGTATA	ACGCGGTCCT	AGACTATCTC	AATGCGATAT	5040
TCGTAGTTAT	TTTCAGTTCC	GAATGTCTAT	TAAAAATATT	CGCTTTACGA	TATCACTATT	5100
TTATTGAGCC	ATGGAATTTA	TTTGATGTAG	TAGTTGTCAT	TTTATCCATC	TTAGGTCTTG	5160
TACTTAGCGA	TATTATCGAG	AAGTACTTCG	TGTCGCCGAC	CCTGCTCCGA	GTGGTGCGTG	5220
TGGCGAAAAGT	GGGCCGTGTC	CTTCGACTGG	TGAAGGGAGC	CAAGGGCATT	CGGACACTGC	5280
TCTTCGCGTT	GGCCATGTCG	CTGCCGGCCC	TGTTCAACAT	CTGCCTGCTG	CTGTTCTCTG	5340
TCATGTTTAT	CTTTGCCATT	TTCGGCATGT	CGTTCTTCAT	GCACGTGAAG	GAGAAGAGCG	5400
GCATTAACGA	CGTCTACAAC	TTCAAGACCT	TTGGCCAGAG	CATGATCCTG	CTCTTTCAGA	5460
TGTCGACGTC	AGCCGGTTGG	GATGGTGTAC	TGGACGCCAT	TATCAATGAG	GAAGCATGCG	5520

ATCCACCCGA	CAGCGACAAA	GGCTATCCGG	GCAATTGTGG	TTCAGCGACC	GTTGGAATAA	5580
CGTTTCTCCT	CTCATACCTA	GTTATAAGCT	TTTTGATAGT	TATTAATATG	TACATTGCTG	5640
TCATTCTCGA	GAACATAGT	CAGGCCACCG	AGGACGTGCA	AGAGGGTCTA	ACCGACGACG	5700
ACTACGACAT	GTACTATGAG	ATCTGGCAGC	AATTCGATCC	GGAGGGCACC	CAGTACATAC	5760
GCTATGATCA	GCTGTCCGAA	TTCCTGGACG	TACTGGAGCC	CCCGCTGCAG	ATCCACAAAC	5820
CGAACAAGTA	CAAGATCATA	TCGATGGACA	TACCCATCTG	TCGCGGTGAC	CTCATGTACT	5880
GCGTCGACAT	CCTCGACGCC	CTTACGAAAG	ACTTCTTTGC	GCGGAAGGGC	AATCCGATAG	5940
AGGAGACGGG	TGAGATTGGT	GAGATAGCGG	CCCGCCCGGA	TACGGAGGGC	TACGAGCCCG	6000
TCTCATCAAC	GCTGTGGCGT	CAGCGTGAGG	AGTACTGCGC	CCGGCTAATC	CAGCACGCCT	6060
GGCGAAAGCA	CAAGGCGCGC	GGCGAGGGAG	GTGGGTCCCT	TGAGCCGGAT	ACGGATCATG	6120
GCGATGGCGG	TGATCCGGAT	GCCGGGGACC	CGGCGCCCGA	TGAAGCAACG	GACGGCGATG	6180
CGCCCGCTGG	TGGAGATGGT	AGTGTTAACG	GTACTGCAGA	AGGAGCTGCC	GATGCCGATG	6240
AGAGTAATGT	AAATAGTCCG	GGTGAGGATG	CAGCGGCGGC	GGCAGCAGCA	GCAGCAGCAG	6300
CGGCGGCGGC	GGGCACGACG	ACGGCGGGAA	GTCCCGGAGC	GGGTAGCGCC	GGGCGACAGA	6360
CCGCCGTTCT	CGTGGAGAGC	GACGGGTTCG	TGACGAAGAA	CGGCCACAAG	GTGGTCATCC	6420
ACTCGCGATC	GCCGAGCATC	ACGTCGCGCA	CGGCGGATGT	CTGAGCCAGG	CCTCGCCCCC	6480
CCCTCCAAGA	TGCACGCGAG	TATTAGCTCT	AGA			6513